

Index	Command	Command Code	Comments
1.	BYPASS	0_0000;	// Prior Art – Test BYPASS.
2.	SAMPLE	0_0001;	// Prior Art – Test Sample/Preload.
3.	EXTEST	0_0010;	// Prior Art – Test EXTEST.
4.	HIGHZ	0_0011;	// Prior Art – Test High impedance.
5.	CLAMP	0_0100;	// Prior Art – Test CLAMP.
6.	ID_CODE	0_0101;	// Prior Art – Test Identification code.
7.	RUN_SCAN	0_0110;	// Test scan cores.
8.	RUN_MBIST	0_0111;	// Test memory BIST cores.
9.	RUN_LBIST	0_1000;	// Test logic BIST cores.
10.	DBG_SCAN	1_0000;	// Debug scan cores.
11.	DBG_MBIST	1_0001;	// Debug memory BIST cores.
12.	DBG_LBIST	1_0010;	// Debug logic BIST cores.
13.	DBG_FUNCTION	1_0011;	// Debug functional cores.
14.	SELECT	1_0100 10010;	// Debug MBIST/LBIST cores 4 and 1.
15.	SHIFT	1_0101 0110_1100;	// Shift data in and out of scan cells.
16.	SHIFT_CHAIN	1_0110 2 1100;	// Shift data in and out of scan chain 2.
17.	CAPTURE	1_0111;	// Capture results to all scan cells.
18.	SKIP	1_1000 1_0000_0000;	// Skip errors for 64 <cycles>.
19.	RESET	1_1001;	// Reset the circuit under test.
20.	BREAK	1_1010 1 0000_0001_0000_0000;	// Stop when 1 <sup>st</sup> break bus1 = 4h'0100.
21.	BREAK	1_1010 2 1001_0011_0110;	// Stop when 2 <sup>nd</sup> break bus2 = 3h'936.
22.	RUN	1_1011;	// Run system clocks forever.
23.	STEP	1_1100 1_0000_0000;	// Run system clocks 64 <cycles>.
24.	STOP	1_1101;	// Stop system clocks.

FIG. 1

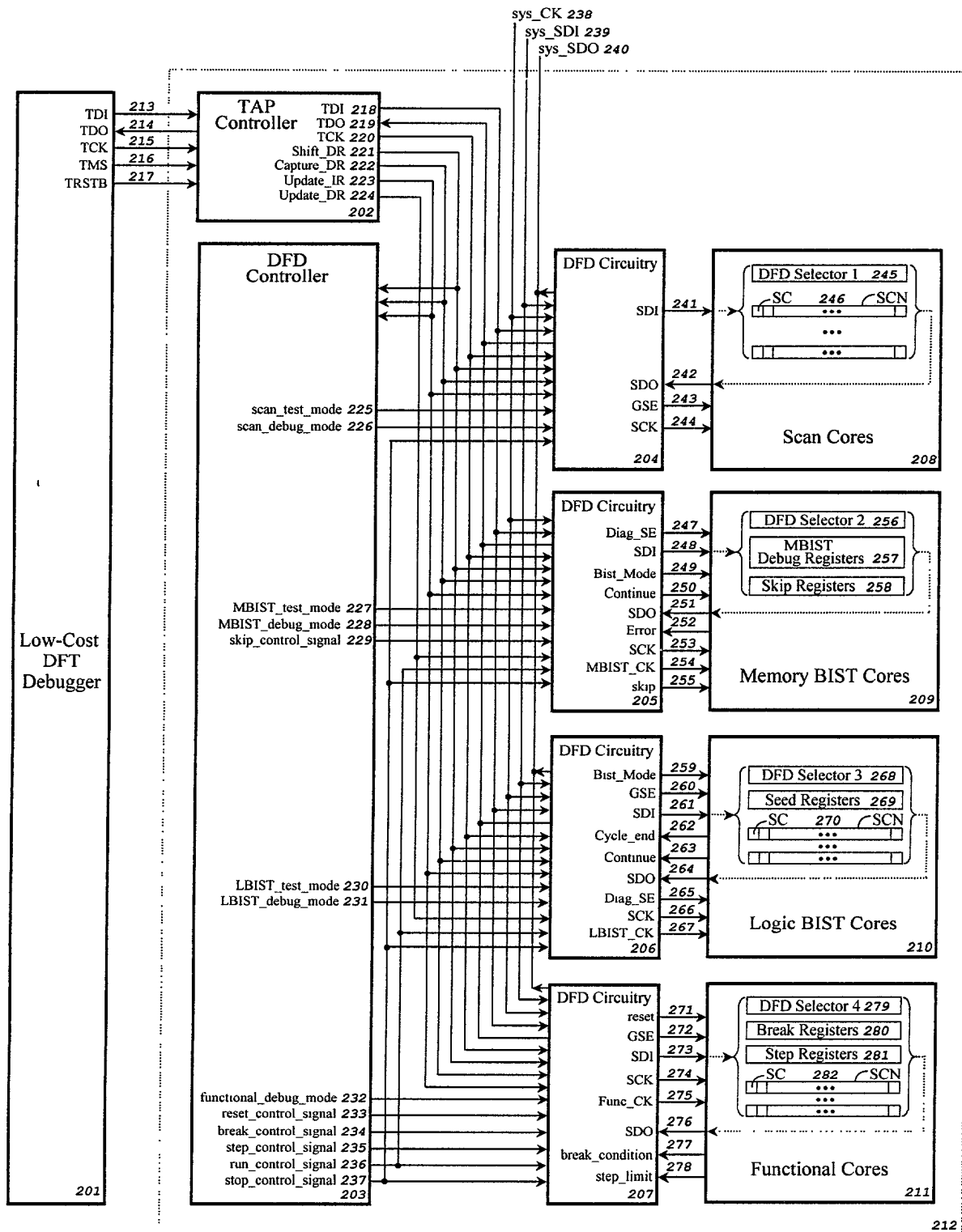


FIG. 2

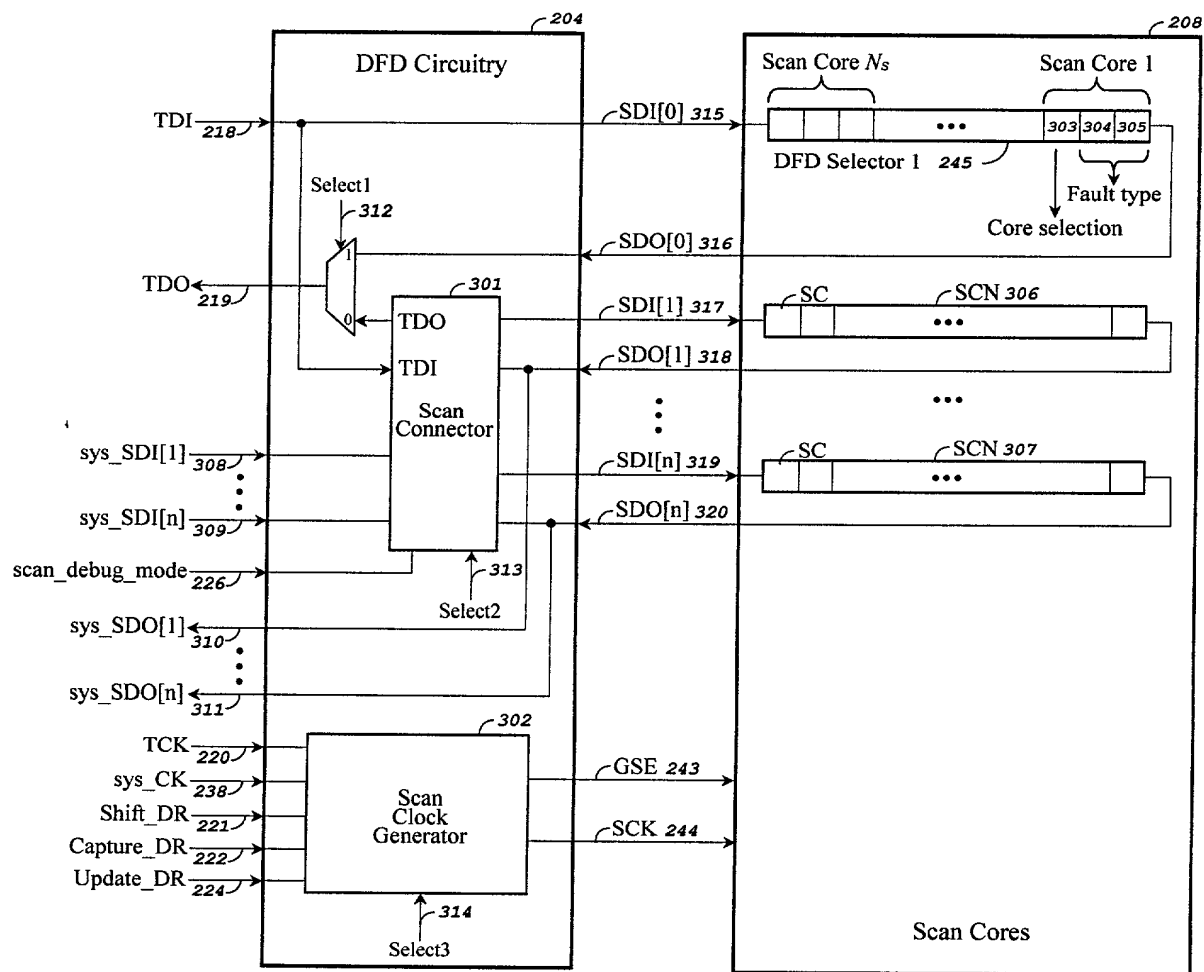


FIG. 3

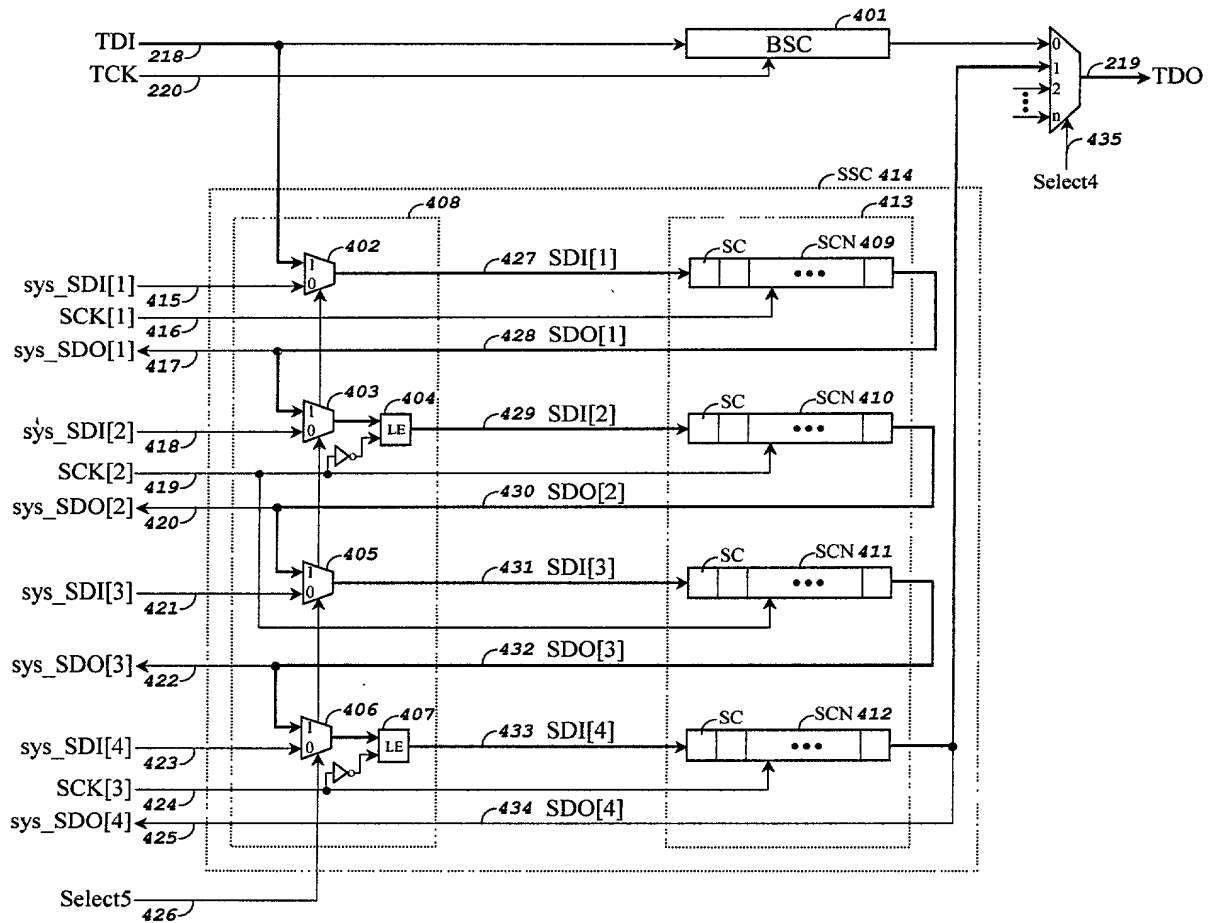
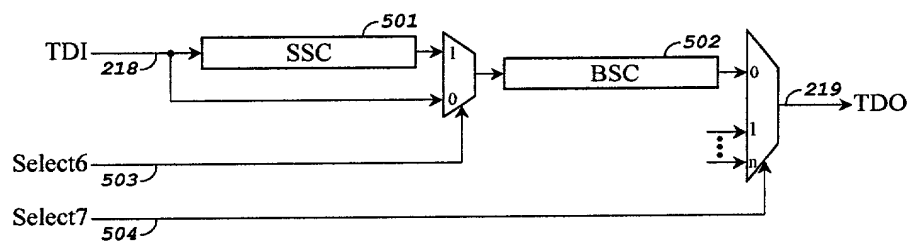
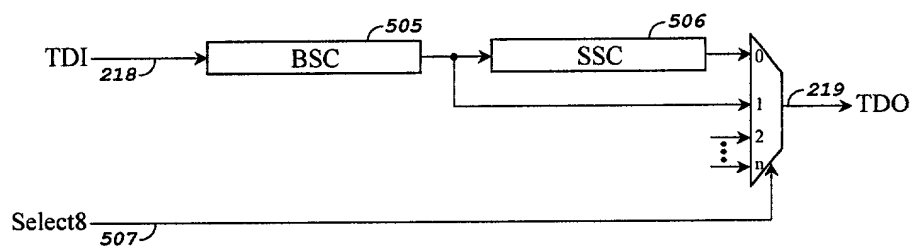


FIG. 4



(a)



(b)

FIG. 5

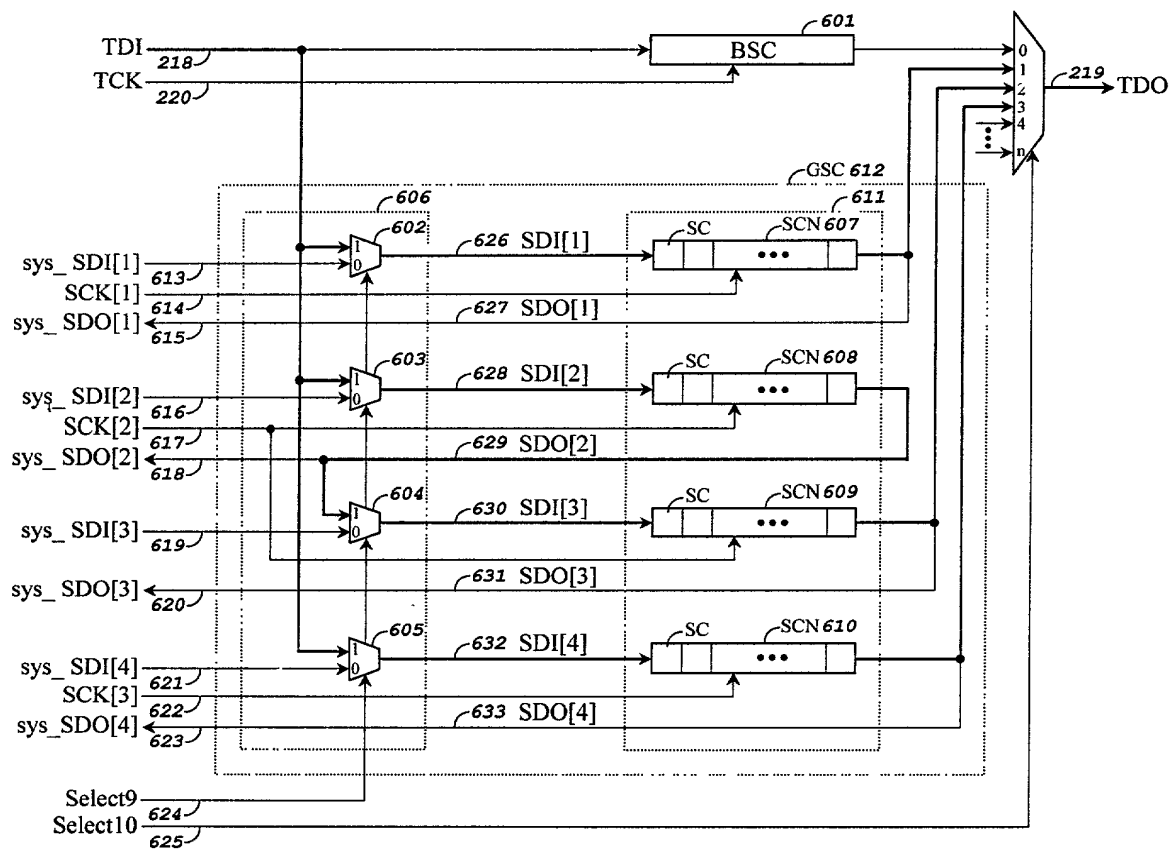
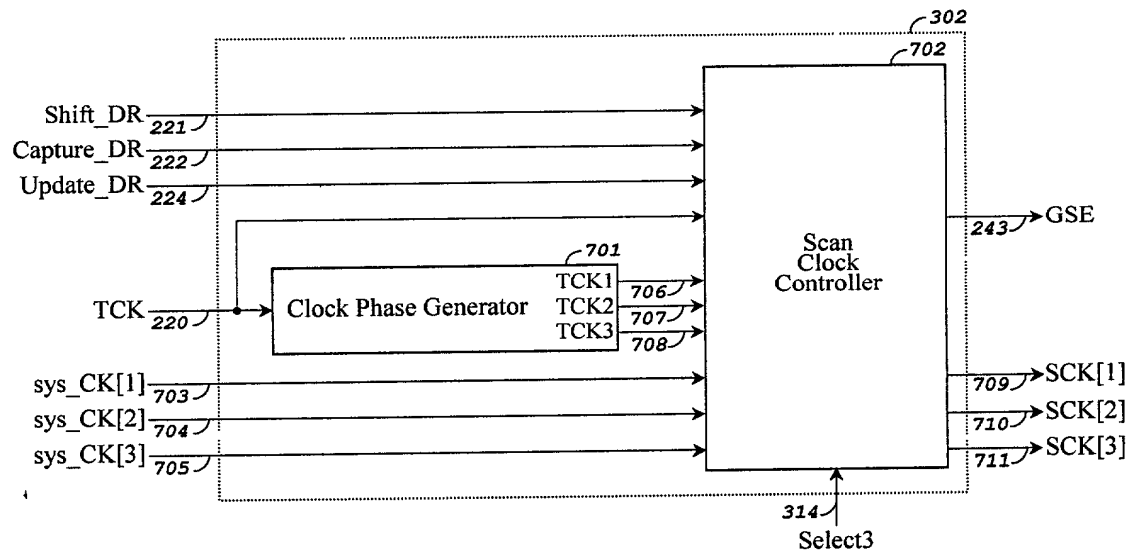
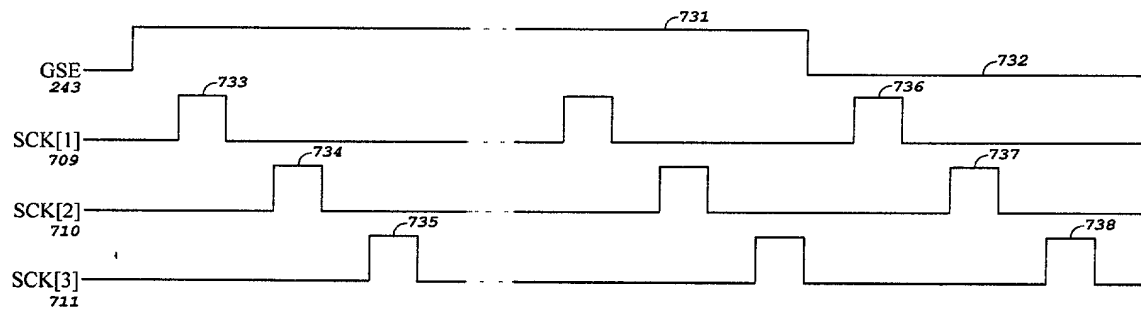


FIG. 6

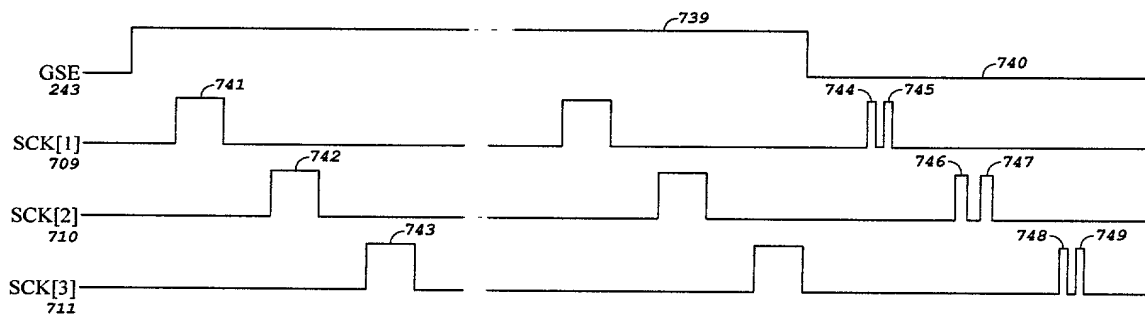


(a)

FIG. 7 Sheet-1



(b) Select3 = 0



(c) Select3 = 1

FIG. 7 Sheet-2



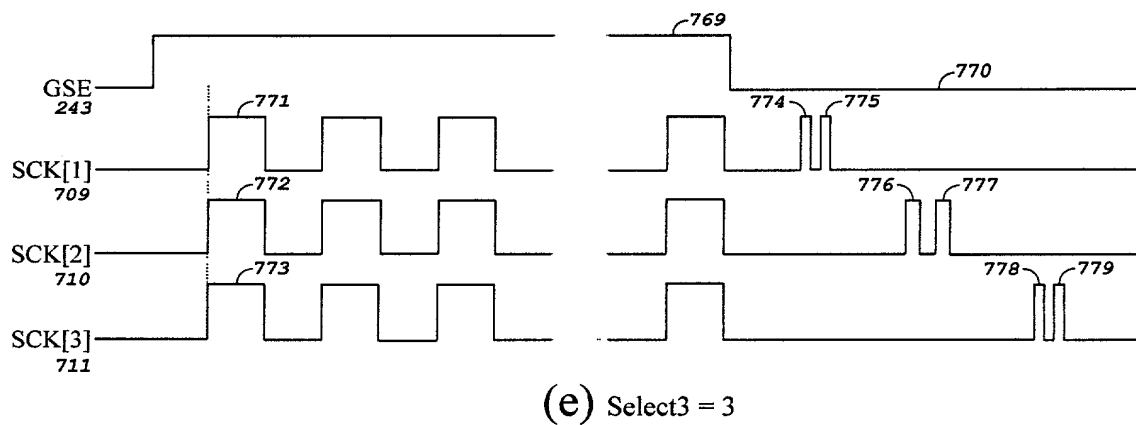
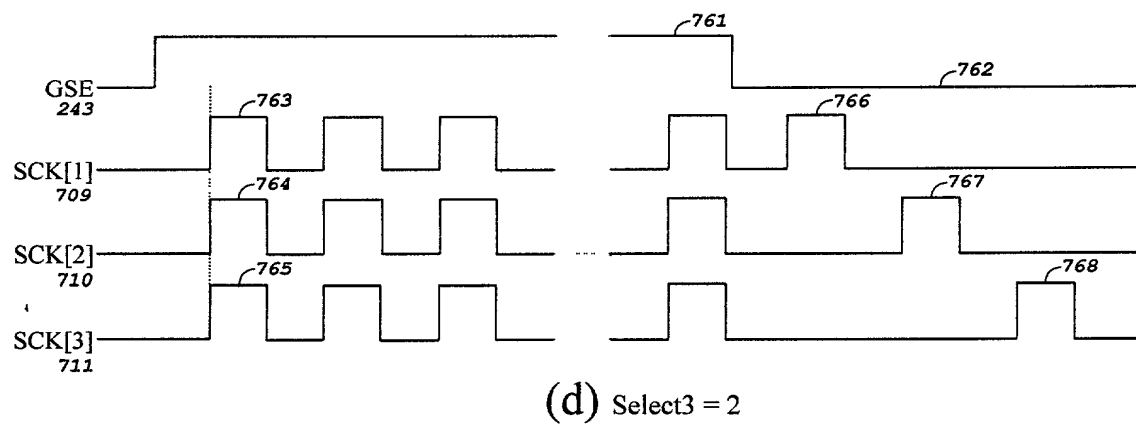


FIG. 7 Sheet-3

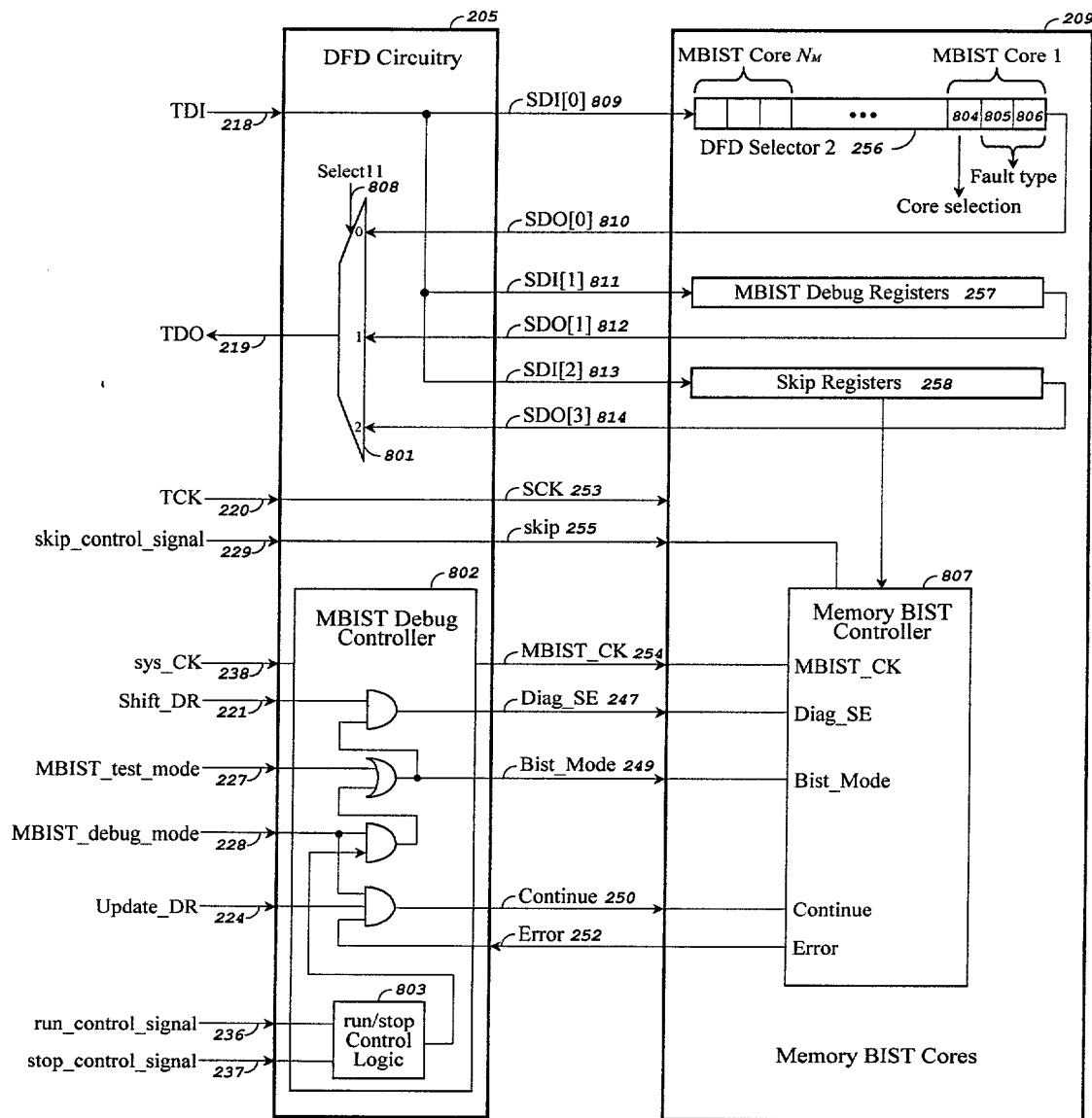


FIG. 8

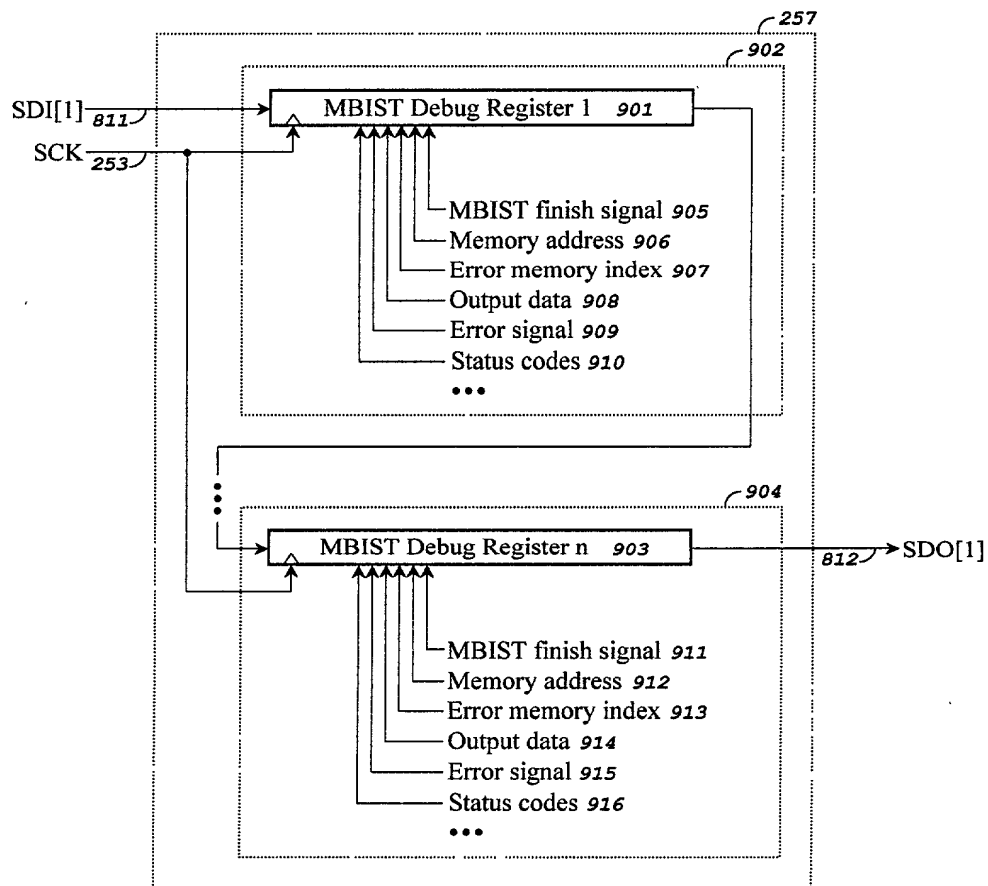


FIG. 9

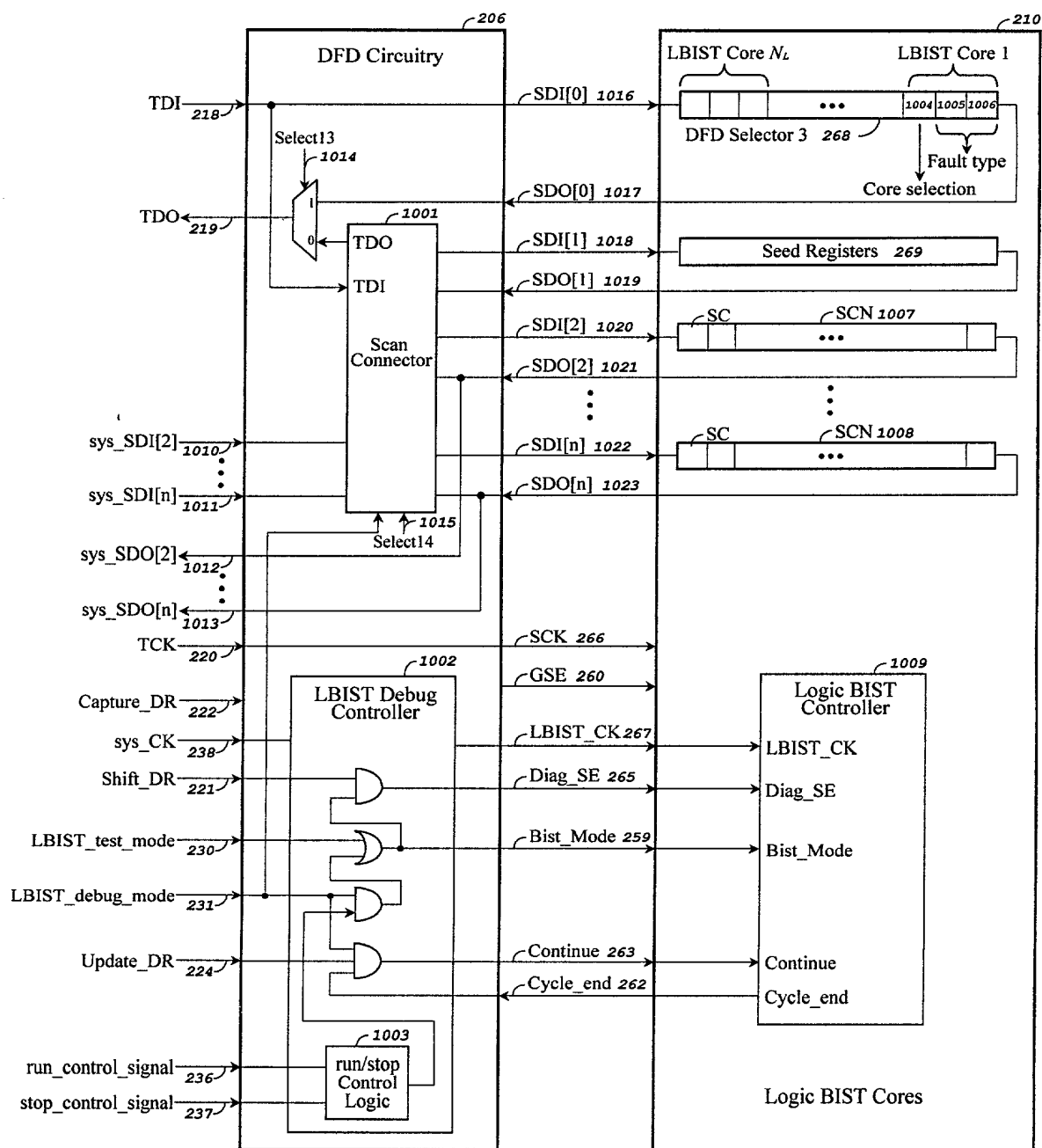


FIG. 10

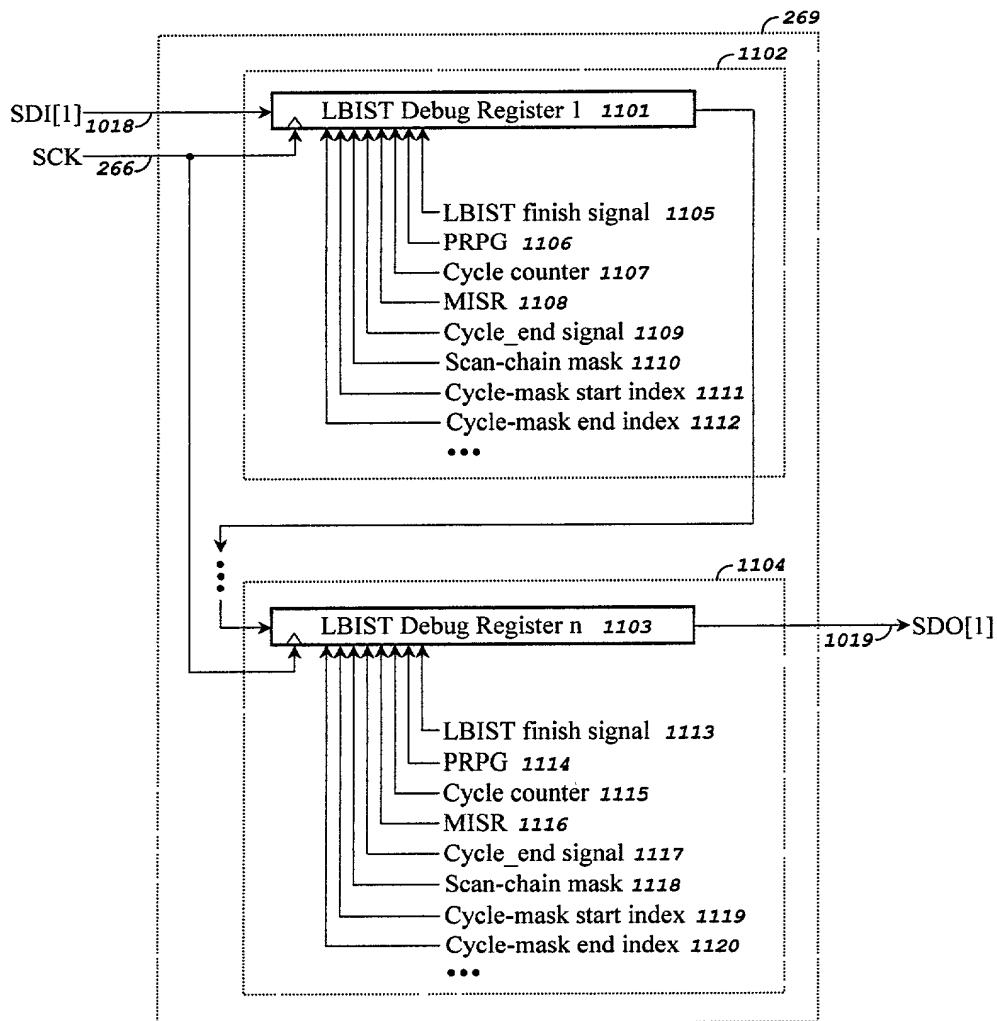


FIG. 11

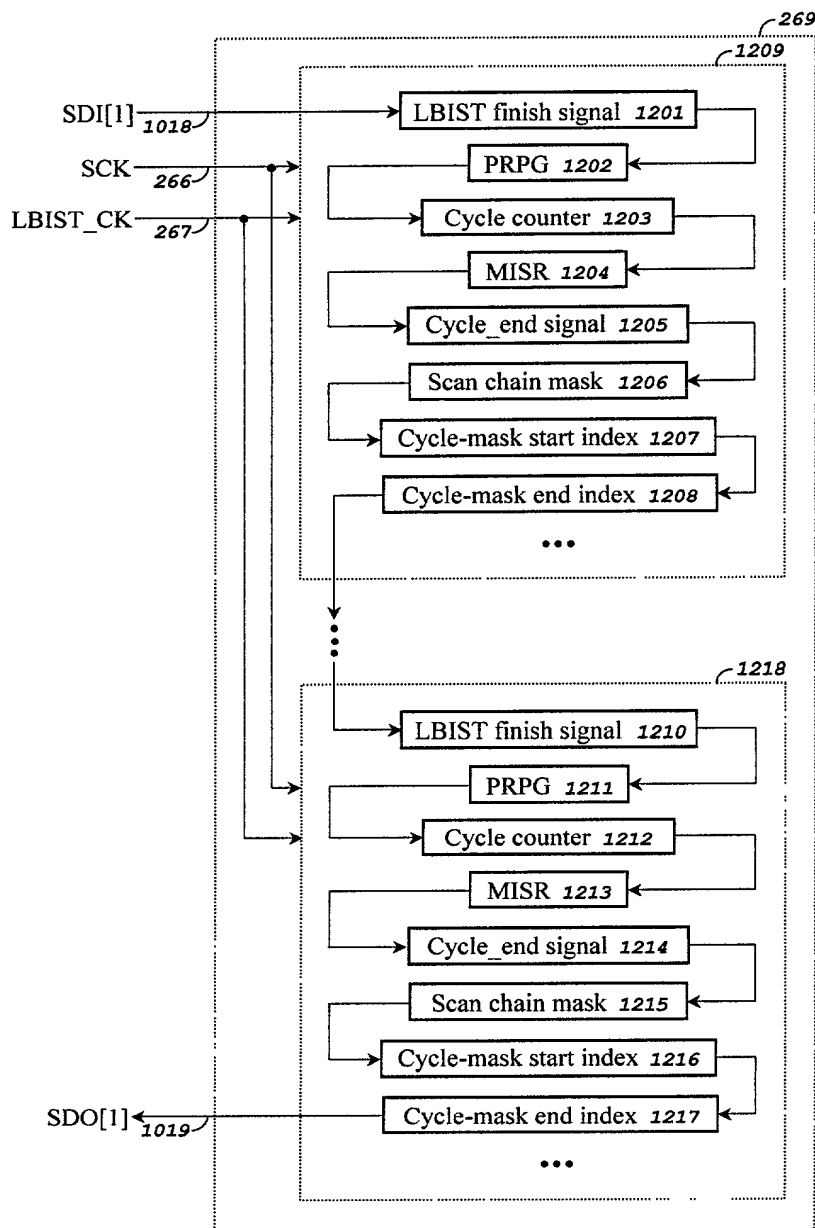


FIG. 12

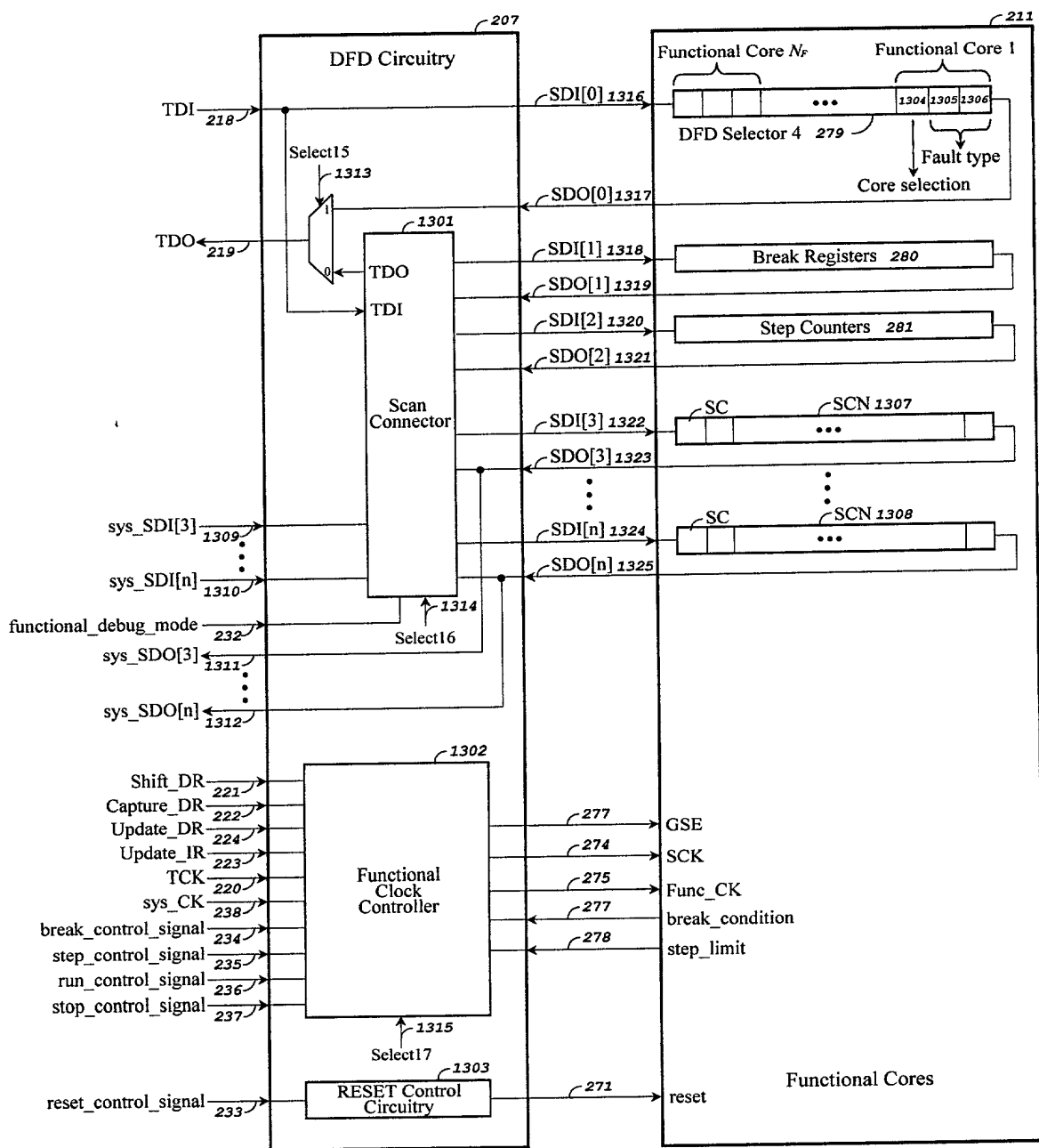


FIG. 13

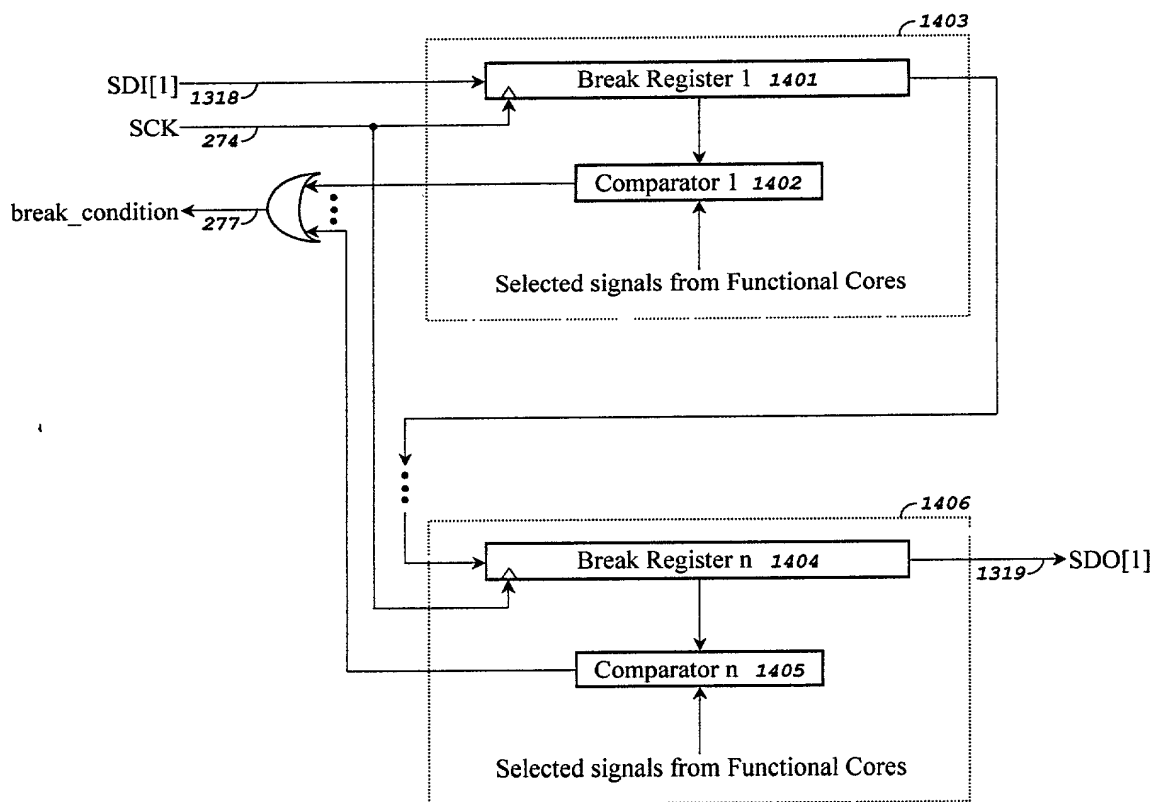


FIG. 14



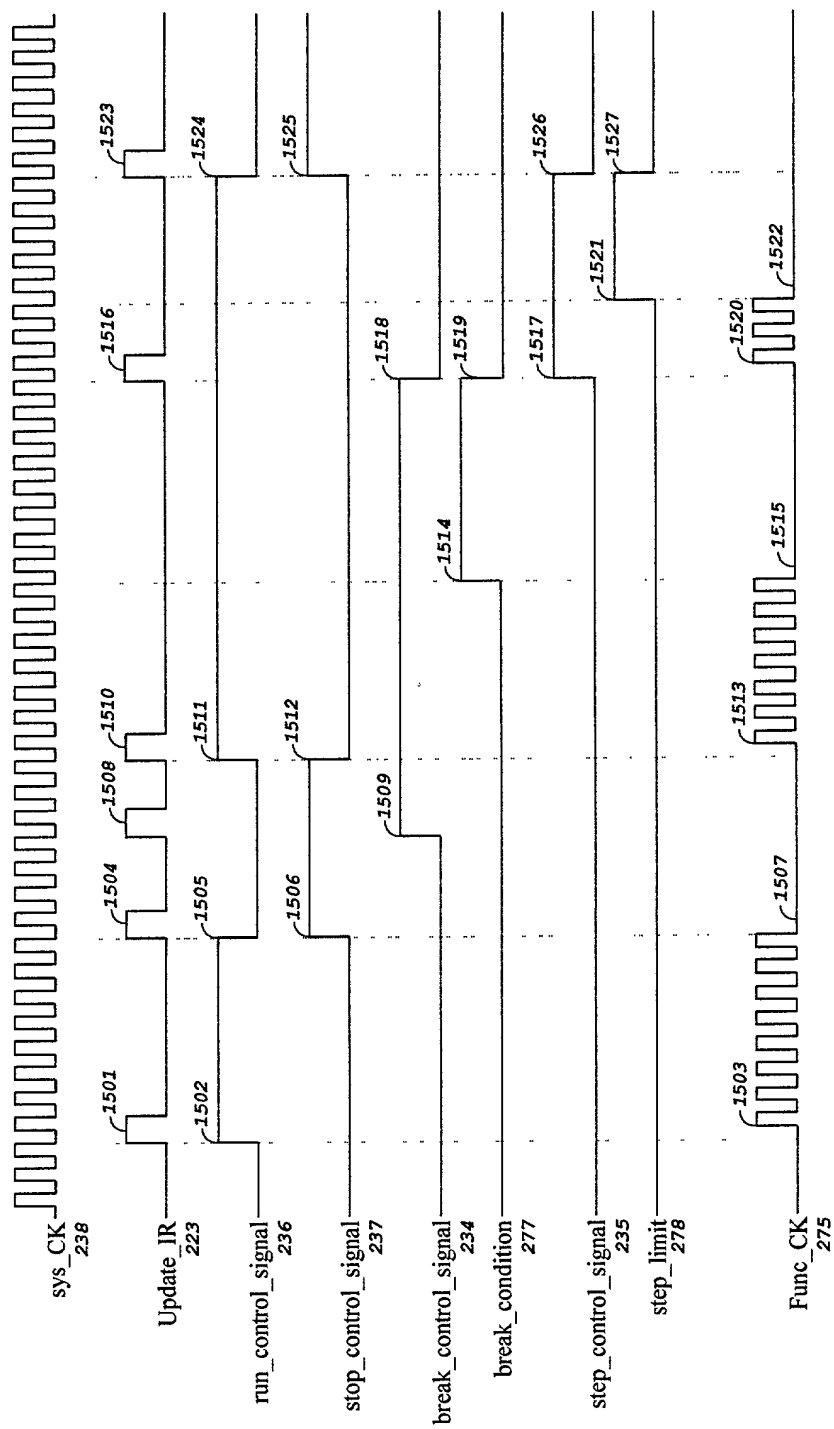


FIG. 15

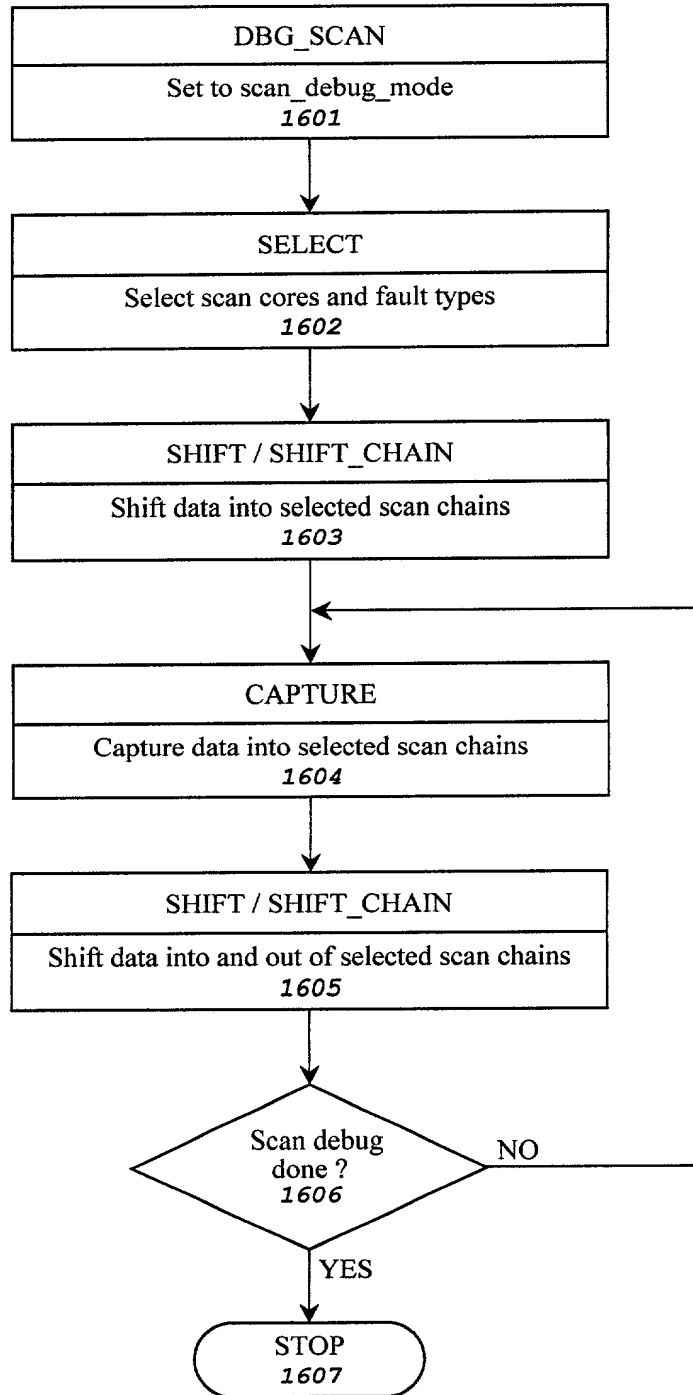


FIG. 16

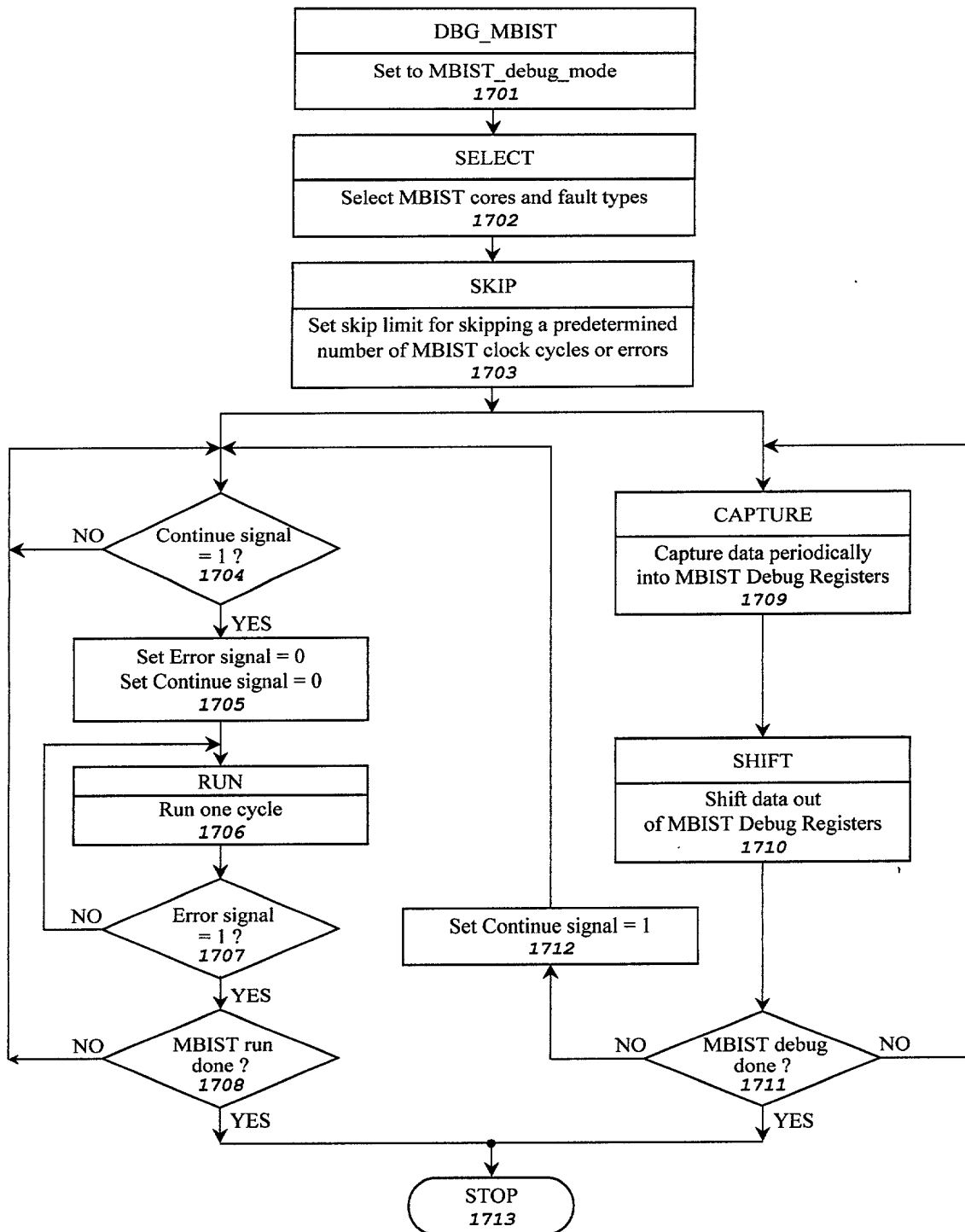


FIG. 17

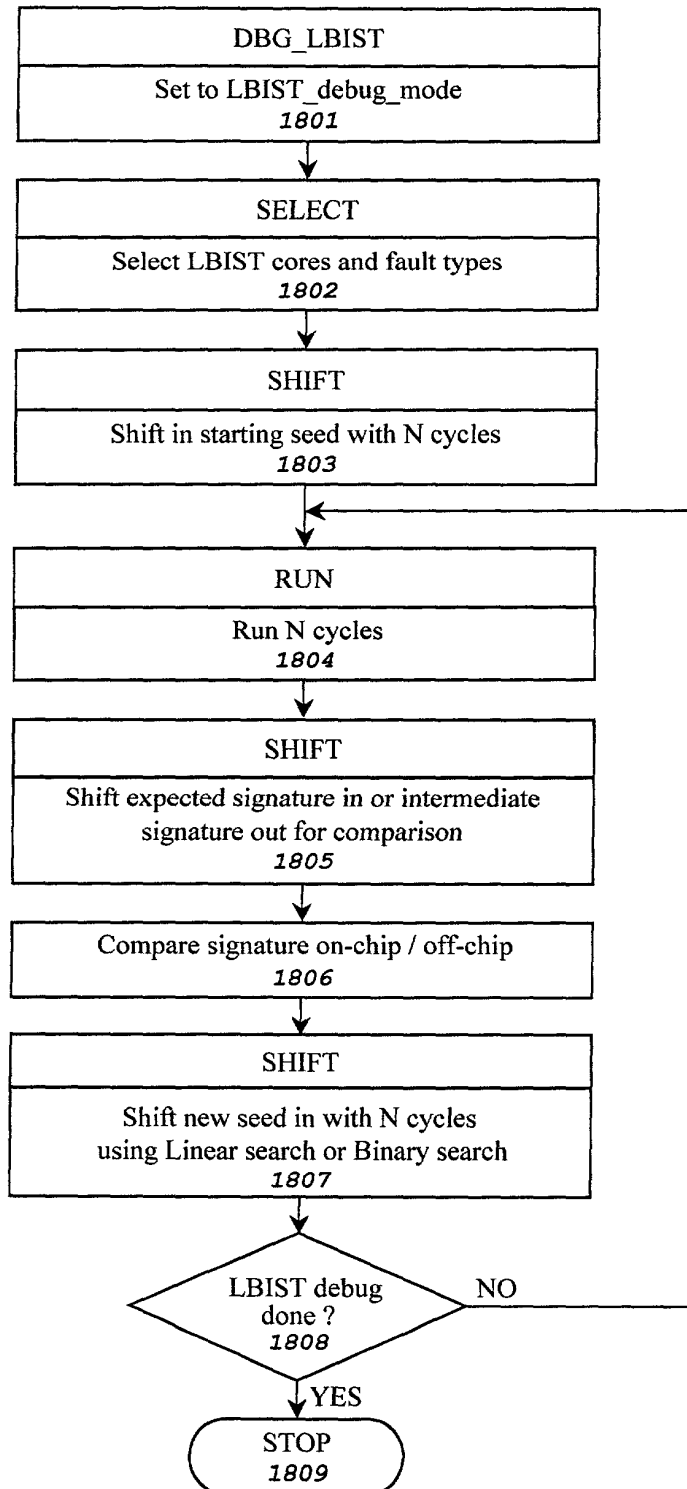


FIG. 18

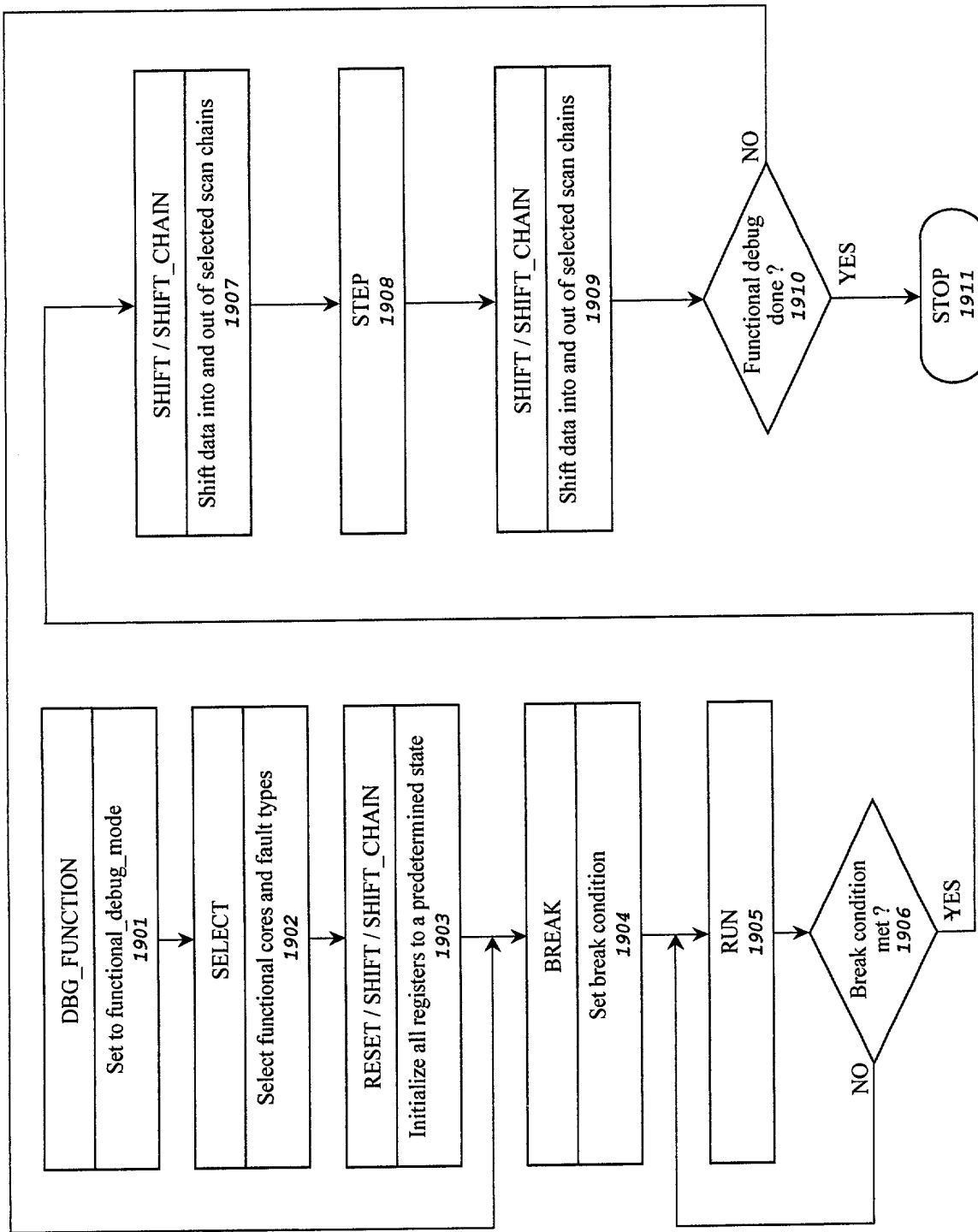


FIG. 19

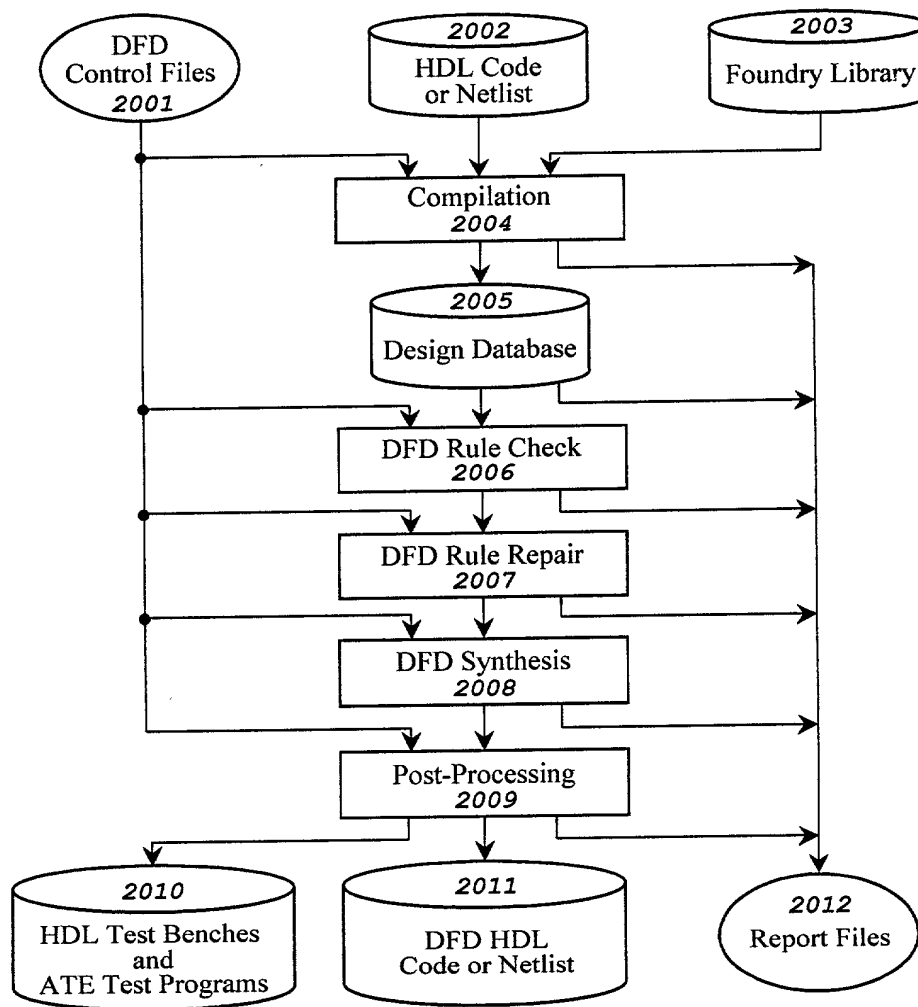


FIG. 20